RESEARCH PLAN PROPOSAL

A Comparative Study of the Effectiveness of Teaching through the Traditional and the Multimedia Approach at the Upper Primary School Level with Reference to Academic Achievement.

For registration to the degree of

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TOPIC

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INTRODUCTION

Education is a lifelong process & it permeates every aspect of an individual's life. Education is the process to shape the quality of life which in turn enhances the quality of the society and the universe as a whole. A school is an institution designed for teaching the students under the direction of teachers.

In Ancient times, students used to stay in Gurukuls where the teacher had full time and responsibility to shape their life for their betterment and the society. Then the system changed with the time to schooling where students went for specific period and teacher delivered lecture and used blackboard and chalk for making the students understand the subject better. In this traditional approach, teachers shouldered most of responsibilities for teaching in the classroom to make sure everything they taught were understood by the students in the limited period of time.

With the passage of time and technological enhancement, education system has undergone various changes. Teachers started experimenting the change in teaching method and methodology. The traditional blackboard approach is gradually giving way to more interactive session between the instructor and students. Dynamic progress in information technologies has necessitated the change in educational process, its purpose, in developing new pedagogical technologies, and to introduce more effective methods and means of teaching. With the recent technological developments, an opportunity has emerged to introduce more efficient method of instruction in the classroom. Multimedia became one of the leading means of teaching today.

The concept of multimedia came into existence in early 1990s. Multimedia also refers to computer media. Multimedia is the integration of multiple forms of media. This includes text, graphics, audio, video, etc. For example, a presentation involving audio and video clips would be considered a 'multimedia presentation.' Educational software that involves animations, sound, and text is called 'multimedia software '. As the information is presented in various formats,

multimedia enhances user experience and makes it easier and faster to grasp. The old days of an educational institution having an isolated audio-visual department are long gone! The growth in use of multimedia within the education sector has accelerated in recent years, and looks set for continued expansion in the future. Multimedia is universal means, as it can be used for teaching to make the teaching-learning process effective, interesting and accessible.

Teachers primarily require access to learning resources, which can support concept development by learners in a variety of ways to meet individual learning needs. The development of multimedia technologies for learning offers new ways in which learning can take place in schools as well as at home. Teachers have access to multimedia learning resources, which support constructive concept development, allows the teacher to focus more on being a facilitator in learning while working with individual students. Due to advances in computers and electronic media, the potential for quality education has been elevated with the appearance of innovative instructional methods employing multimedia equipment and resources. Multimedia approach to teaching and learning has become standard forms of education. The classroom has become digital and called as smart class.

Smart class is a comprehensive solution designed to assist teachers in private schools in meeting day to day classroom challenges and enhancing student's academic performance with simple, practical & meaningful use of technology. It also enables teachers to instantly assess and evaluate the learning achieved by their students in class. Smart class is powered by a vast repository of digital instructional materials exactly mapped to meet with the specific objectives laid out by different state learning standards. The content repository consists of thousands of highly animated, lesson specific, 2D and 3D multimedia modules built with an Instructor-led design that allows the teacher to effectively transact the lesson in a typical classroom of diverse set of learners. Educational videos from Eureka and Discovery channel are available for teachers to use in the classroom. The modules are embedded in a template that allow the teachers to teach a chosen lesson in class, frame by frame, with engaging and instructionally sound animated set of visuals while retaining complete control on the pace of delivery.

The Smart Class Multimedia System helps in establishing an easy yet effective control and communications system for teachers in the computer lab and ensures that teachers have uninterrupted quality time with students while dealing with learning concepts. This solution will enrich teaching methods with modern

technology and introduce the children to a wealth of information and interactive learning techniques to improve the overall education experience.

DEFINITION OF THE TERMS USED

1. **Effectiveness of teaching:** The effectiveness of teaching is concerned with whether or not a specific set of resources has a positive effect on outcomes.

   In this study, the effectiveness of teaching is measured on the basis of scores obtained in academic achievement test.

2. **Traditional approach to teaching:** The teaching process in which teacher delivers the message via the 'chalk-and- talk' method and overhead projector (OHP) transparencies. The teacher controls the instructional process, the content is delivered to the entire class and the teacher tends to emphasize factual knowledge. In other words, the teacher delivers the lecture content and the students listen to the lecture.

3. **Multimedia:** Multimedia uses computers to present text, audio, video, animation, interactive features, and still images in various ways and combinations. Multimedia can be accessed through computers or electronic devices and integrates the various forms together. One example of multimedia would be combining a website with video, audio, or text images.

   'Multimedia is any combination of text, graphic art, sound, animation and video delivered to you by computers or other electronic or digitally manipulated means.'[1]

4. **Multimedia approach to teaching:** It is a teaching process that uses multimedia in the presentation of instructional material, often in a way that requires the student to interact with it. When teacher uses multimedia in her class, it is said to use multimedia approach to teaching.

   In Multimedia approach, the teaching-learning process is carried out through a number of media by using them in such a planned and organized

[1] Tay Vaughan (2006): *Multimedia :Making it Work, Tata McGraw-Hill Education,* New York, p-1

combination with reference to the available teaching-learning situation that leads to their utmost utilization for achieving the desired ends in a quite effective way.[2]

5. **Upper primary school:** It includes students of class 6^{th} to 8^{th}.

6. **Academic achievement:** Academic achievement is a product attained through the process of learning. It is the total performance or attainment of students in the scholastic subjects prescribed for the course at a particular grade level.
   In this study, it is defined as the scores obtained by the students in the academic achievement test covering the subjects Science, Mathematics and Social Sciences.

REVIEW OF RELATED LITERATURE

Kumar, K.S. Kiran [3] **(2011)** conducted a study **Teaching Grammar through Multimedia to Rural Secondary School Students.** Research evidenced indicates that the Multimedia presentation can improve student's performance; therefore Multimedia presentation being an innovative approach to teaching-learning process endless drill and practice without repetition, and provides immediate feedback to the learner on his/her progress.

Jadal, M. M. [4] **(2011)** carried out a study **Efficiency of using computers in teaching English.** It was found that experimental group students, due to the usage of computer in English teaching, learnt effectively.

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[2] S.K. Mangal and Uma Mangal(2009): Essential of Educational Technology, PHI learning Pvt. Ltd, New Delhi,p-37

[3] Indian Streams Research Journal, June 2011, Vol - I , Issue -V , retrieved in October2011 from http:// www.isrj.net

[4] Indian Streams Research Journal, May 2011, Vol - I , Issue –IV, retrieved in October2011 from http:// www.isrj.net

T.Enok, Joel [5] **(2011)** undertook a study **Influence of Multimedia in Enhancing Attitudes towards Computer Science at Higher Secondary Level.** Multimedia package has influence on the attitude towards Computer Science. It is observed that method of teaching with modern tools matters to develop attitude among students.

Vansia, Falguni S.[6] **(2011)** conducted a study **Development and Effectiveness of Computer Based Learning Programme in Teaching Mathematics.** In this study Computer Based Learning (CBL) Programme develop in Mathematics. Implement this Programme in Urban and Rural area Students for Study the effectiveness. CBL method effectiveness was found comparatively better in terms of achievement scores of students.

Singh, Y. G. [7] **(2010)** conducted **A Study of Effectiveness of Multimedia Programme in Teaching Biology.** The study was conducted to develop a multimedia programme for the teaching of Biology, and experimenting the same with a set of students studying in the XIIth standard and finding out its effectiveness over the traditional method of teaching. Pre-test and Post-test equivalent groups design was followed for this study. The result shows that the students learning through multimedia programme are found to be better than the students learning through traditional method of teaching.

Jing, Liu [8] **(2010)** carried out **An Experimental Study on the Effectiveness of Multimedia in College English Teaching.** Based on empirical research and qualitative analysis, this paper aims to explore the effectiveness of multimedia assisted methods in college English teaching. It seems and has been proved by some studies that multimedia assisted methods can effectively promote students' English learning. But the results of this study do not positively contribute to the previous hypothesis.

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[5] Indian Streams Research Journal, May 2011, Vol - I , Issue – IV, retrieved in October2011 from http:// www.isrj.net

[6] Research Analysis and Evaluation, International Research Journal ,December 2011, Vol III issue 27, retrieved in February,2012 from http:// www.ssmrae.com

[7] Research Analysis and Evaluation, International Research Journal ,August 2010, Vol1 issue 11, retrieved in August 2011 from http:// www.ssmrae.com

[8] English Language teaching, March 2010, Vol3, No1, retrieved in August from http:// www. Ccsenet.org/elt

Acha, J. [9] **(2009)** conducted a study **The effectiveness of multimedia programmes in children's vocabulary learning**. The present experiment investigated the effect of three different presentation modes in children's vocabulary learning with a self-guided multimedia programmes In this study, 135 3rd and 4th grade students were shown a short English language story, presented on a computer program. Twelve previously unknown words (key words) were embedded within the story. Students were presented with verbal annotations (written translation), visual annotations (picture representation), and a combination of the two to assist in their understanding of the twelve key words. Recall of word translations was highest for students who received verbal annotations only. These findings suggest a challenge for the effectiveness of self-learning multimedia programs in second language vocabulary acquisition.

Ellaisamy, M. [10] **(2007)** conducted a study **Effectiveness of Multimedia Approach in Teaching Science at Upper Primary Level.** The pupils of the experimental group achieved more than the pupils of the control group in science at upper primary level. The pupils of the experimental group have improved than the pupils of the control group in their scientific attitude. This is due to the favourable impact of the multimedia approach in the learning of the VIII standard pupils.

Kannan, M. [11] **(2007)** conducted a study **A Study of Effectiveness of Use of Computer Technology in Teaching the Concepts of Physics at Senior Secondary Level.** The computer assisted teaching is the best method to teach the concepts of physics at senior secondary level. There is no much profitable learning by the students just by using computer technology to learn the concepts of physics without the aid of the teacher or by the traditional method of teaching physics.

Desai, Beena Y. (2004) [12] conducted **A Comparative Study of the Efficacy of Teaching through the Traditional Method and the Multimedia Approach in the Subject of Home Science.** It is an experimental study which has employed

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9 British Journal of Educational Technology, January 2009, Vol. 40 no 1, p 23-31. retrieved in August 2010 from http:// blackwellpublishing.com/jnl_default.asp

10 Indian Educational Review, January 2007, Vol 43, No1. NCERT, New Delhi p 125-133

11 Abstract of Ph.D. theses, Faculty of Education, retrieved in January from http://old.jmi.ac.in/2000/Research /research_ab_education.htm

12 D.R. Goel, Chhaya Goel, R.L.Madhavi, Abstract of Research Study , retrieved on 13, May,2011 from http://www.educationinindia.net

experimental group and control group design. The sample of the study is constituted of 98 students of B.A. first year home science (2001-2002) of Smt. J.P. Shroff Arts College, Valsad. The students were found to have favourable opinions towards the multimedia approach. The study has found the relative efficacy of teaching through the traditional method and the multimedia approach in the subject of Home Science, particularly, Proteins.

JUSTIFICATION AND RELEVANCE OF THE STUDY

There are many researches conducted in the India as well as aboard, in the area of multimedia. Acha(2009), Jadal(2011), Kumar (2011) and others have conducted research of using multimedia in teaching of English and found positive outcome. Ellaisamy (2007) has conducted a study of using multimedia approach in teaching Science and found that teaching through multimedia is effective. Desai(2004) have conducted research of using multimedia in Home science and found positive result. Vansia (2011) conducted a study of development and effectiveness of computer based learning programme in teaching mathematics and found positive outcome. Many experiments have been done in various subjects till date to find the effectiveness of multimedia. Most of the results show positive outcomes, with students being enthusiastic about new methods of learning. Most of the experiments suggest that multimedia approach to teaching is more effective than traditional approach to teaching. Taking the findings of experiment in account, many schools have also started multimedia approach to teaching in their classrooms. In the last few years increasing efforts in developing and using multimedia based materials for teaching in theory and practice are being observed. It becomes new method of teaching and learning.

The researcher is keen to know if the multimedia approach to teaching is really effective as most of the researches claim to be. Research result may totally differ from the real classroom situation result when multimedia approach to teaching is extensively and regularly used. The performance generally improves when the way material presented is changed. Sometimes just being new is enough to get a positive response from students even if they don't learn material any better. For instance if a professors' lecture method is changed, improved learning will probably occur. A 'reasonable' change causes an improvement in student learning.

Students study harder when they perceive the professor is giving them attention that seems special. The increased learning lessened as the new methods become the norm. So it is quite likely that multimedia approach to teaching may become ineffective as more students find it to be the norm. It is therefore; decided by the researcher to take up this study to find out how effective multimedia approach to teaching in the schools is? Is it going to remain effective when used extensively and regularly as norm in schools?

Furthermore, the developing countries like India may not have where with all in all schools thus depriving majority of students of the multimedia facility. Even if the facilities are provided there may be deficiency of trained staff. In our country there is no dearth of trained teachers and money spent in providing multimedia can be better utilized by giving employment to teacher. Multimedia can never replace teacher, hence change in the ratio of teacher: student may appear to be a better option.

STATEMENT OF THE STUDY

A Comparative Study of the Effectiveness of Teaching through the Traditional and the Multimedia Approach at the Upper Primary School Level with Reference to Academic Achievement.

OBJECTIVE OF THE STUDY

1. To compare the effectiveness of teaching through the traditional and the multimedia approach on academic achievement of the upper primary school level student.

    i. In context to subjects viz. Science, Social sciences and Mathematics
    ii. In context to classes sixth, seventh and eighth.

HYPOTHESIS

1. There is no significant difference in the academic achievement of the upper primary school level students taught through the traditional and the multimedia approach

    i. In context to subjects viz. Science, Social sciences and Mathematics
    ii. In context to classes sixth, seventh and eighth.

PLAN OF WORK AND METHODOLOGY:

RESEARCH DESIGN

The present study will be conducted by survey method. The independent variable will be teaching approach. The dependent variables will be academic achievement of students.

Universe: - Schools of Jaipur, Rajasthan.

Sample: Sampling will be taken by purposive random sampling method. The sample of the study will consists of 1000 students. 500 students will be taken from schools having multimedia approach to teaching and 500 students will be taken from schools having traditional approach to teaching. The sample will include both boys and girls of class sixth, seventh, and eighth.

TOOLS / INSTRUMENTATION

The researcher will develop the following tool for the collection of data.

Achievement test: An Achievement test of Science, Social sciences and Mathematics will be prepared for classes sixth, seventh and eighth

STATISTICAL TECHNIQUE

The data will be analyzed by using statistical technique t-test and graphical representation.

DELIMITATIONS OF THE STUDY

1. To study the effectiveness of teaching, only academic achievement of the students will be measured.
2. Academic Achievement test will cover only three subjects namely Science, Social Sciences and Mathematics.
3. Schools having multimedia approach to teaching are only those schools which are having smart classes or digital classrooms.
4. The study will be confined to schools of Jaipur having CBSE affiliation.

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